

IN THE DRAWINGS:

Submitted herewith are three (3) replacement sheets for the Figures 1, 2 and 4.

## REMARKS

Applicant has amended the claim 5 and amended the drawings. Applicant respectfully submits that these amendments to the claims and the drawings are supported by the application as originally filed and do not contain any new matter. Accordingly, the Office Action will be discussed in terms of the claims and drawings as amended.

The Examiner has objected to the Figure 4 stating that it should be labeled "PRIOR ART". Applicant has amended the Figure 4 to include the legend "PRIOR ART" and submitted herewith is the required replacement sheet. Accordingly, Applicant respectfully requests that the Examiner withdraw his objection.

The Examiner has rejected the claims 4, 5 and 6 under 35 USC 112, second paragraph and pointed out phrases in claims 4 and 5 which the Examiner states are unclear. Applicant has amended the claim 5 to clarify the language therein. In addition, Applicant respectfully submits that the mixer 22 is provided between the suction 21 and the second gears 2. This is described in the specification and apparently there is an error in the drawings as originally filed. Accordingly, Applicant has corrected the drawings to correct the numerals in the Figures 1 and 2. In view of the above, therefore, Applicant respectfully submits that the claims 4, 5 and 6 comply with the requirements of 35 USC 112, second paragraph.

The Examiner has rejected the claim 2 under 35 USC 102 as being anticipated by Jameson stating that Jameson in Figure 1 discloses a device for applying a foamed hot melt adhesive and hot melt adhesive and particularly suggests that the first and second gear pumps are driven by drive mechanism independently from each other and that the rotational frequencies of the first and second gear pumps are respectively independent and arbitrarily.

In reply thereto, Applicant has carefully reviewed Jameson and respectfully submits that Jameson does not disclose that the first and second gear pumps are driven independently. Instead, Applicant respectfully submits that at column 3, lines 54-57 it states:

"The driven gears 13a, 14a of each stage are connected by a common drive shaft 15 to a drive motor 15m, and the idler gears 13b, 14b of each stage are connected by a common idler shaft 16."

Applicant respectfully submits that this language clearly shows that the first and second gear pumps are not driven independently and arbitrarily as required by Applicant's

claim 2. Therefore, Applicant respectfully submits that the claim 2 is not anticipated by Jameson.

The Examiner has rejected the claim 4 under 35 USC 103 as being obvious over Akers et al. in view of Sunao stating that Akers et al. discloses a device 4 supplying foamed hot melt adhesive and hot melt adhesive which also includes first and second gear pumps driven by independent drive mechanisms at independent arbitrary rotational frequencies, but fails to disclose a gas suction opening as provided between the first gear pump and the second gear pump in the second compression process and a mixture provided between the gas suction opening and the second gear pump so as to enhance mixture and dispersion between the gas and the liquid; Sunao in Figure 3 discloses a gas suction opening 11 provided between the first gear pump 14 and the second gear pump 13 in the second compression process and a mixer 4 is provided between the gas suction opening 11 and the second gear pump 13 so as to enhance mixture and dispersion between the gas and a liquid; and it would be obvious to modify Akers et al. in view of the teachings of Sunao.

In reply to this rejection, Applicant has carefully reviewed Akers et al. and respectfully submits that Akers et al. does not teach that the first and second gear pumps are driven by independent drive mechanism at independent and arbitralional rotational frequencies. In particular, Applicant directs the Examiner's attention to column 8, lines 44-49 wherein it states:

"The first 91 and the second 92 stage pump drive gears 93a, 94a are mounted on a common drive shaft 95 and are driven by a power unit (not shown). The first 91 and second 92 stage pump idler gears 93b, 94b are mounted on a common idler shaft 96 and mesh with the respective drive gears 93a, 94b".

Clearly the above shows that the first and second pumps are not driven independently.

Applicant has further carefully reviewed Sunao and respectfully submits that in Sunao element 11 is a pump, element 13 is a driving mechanism and element 14 is a driving mechanism. However, elements 6 and 11 are pumps and element 4 is a mixer for the gas introduced through element 8 and the adhesive. However, notwithstanding the above, Applicant respectfully submits that Sunao does not disclose that the first and second gear pumps are driven independently and arbitrarily. Accordingly, Applicant respectfully submits

that the claim 4 is not obvious over Akers et al. in view of Sunao since the combination thereof is not Applicant's invention.

The Examiner has further rejected the claim 5 under 35 USC 103 as being obvious over Jameson in view of Sunao stating that Jameson discloses all of the present invention in Figure 1, but fails to disclose a gas suction opening is provided between the first gear pump and the second gear pump; Sunao in Figure 3 discloses a gas suction opening 11 provided between the first gear pump 14 and the second gear pump 13; and it would have been obvious to one of ordinary skill in the art to modify Jameson in view of the teachings of Sunao.

In reply to this rejection, Applicant would like to incorporate by reference his comments above concerning Applicant's invention, Sunao and Jameson. In view of these comments, Applicant respectfully submits that the combination suggested by the Examiner is not Applicant's invention in that the first and second gear pumps would not be independently driven. Therefore, Applicant respectfully submits that the claim 5 is not obvious over Jameson in view of Sunao.

The Examiner has rejected the claim 6 under 35 USC 103 as being obvious over Klein et al. in view of Okuda et al. stating that Klein et al. discloses a method and apparatus for controlling the gas content of dispensed hot melt thermoplastic adhesive foam which includes first and second gear pumps which are driven independently at independent rotational frequencies, but fails to disclose wherein the ratio of discharge between the first pump and second pump is automatically controlled to be set at 1/1 to apply the solid hot melt adhesive, the ratio of discharge between the first gear pump and the second gear pump is automatically controlled to be set at a value greater than 1/1 to apply the foamed hot melt adhesive and application of the foamed hot melt adhesive and that of the solid hot melt adhesive can be selectively performed by the device; Okuda et al. discloses wherein the ratio of discharge between the first gear pump and the second gear pump is automatically controlled to be set at 1/1 to apply the solid hot melt adhesive, the ratio of discharge between the first gear pump and the second gear pump is automatically controlled to be set at a value greater than 1/1 to apply a foamed hot melt adhesive and application of the foamed hot melt adhesive and that of the solid hot melt adhesive can be selectively performed by the device; and it would have been obvious to one of ordinary skill in the art to modify Klein et al. in view of the teachings of Okuda et al.

Applicant has carefully reviewed Klein et al. and respectfully submits that Klein et al. is substantially the same as Jameson and Akers et al. In particular, Applicant respectfully submits that the first and second gear pumps are not driven independently at independent rotational speeds and particularly directs the Examiner's attention to column 8, lines 42-46 wherein it states:

"The driven gears 12a, 13a of each stage are connected by a common drive shaft 14 and the idler gears 12b, 13b of each stage are connected by a common idler shaft 16".

From the above language, Applicant respectfully submits that the first and second gear pumps must be driven at the same rotational speed.

Applicant has also carefully reviewed Okuda et al. and respectfully submits that Okuda et al. while being a apparatus for mixing a high viscosity material into a gas utilizes pistons and cylinders and not gear pumps. In addition, Applicant respectfully submits that at column 9, lines 25-35 it merely discloses that the mixing ratio of a gas into a high viscosity material and this mixing ratio R is adjusted by adjusting the supply pressure of the gas. Still further, Applicant respectfully submits that nowhere in this portion of Okuda et al. does it suggests that the gas pressure would be zero.

In view of the above, therefore, Applicant respectfully submits that the combination suggested by the Examiner would not be Applicant's invention and the claim 6 is not obvious over Klein et al. in view of Okuda et al.

Applicant further respectively and retroactively requests a one (1) month extension of time to respond to the Office Action and respectfully requests that the extension fee in the amount of \$65.00 (fee code 2251) be charged to QUINN EMANUEL DEPOSIT ACCOUNT NO. 50-4367.

In view of the above, therefore, it is respectfully requested that this Amendment be entered, favorably considered and the case passed to issue.

Please charge any additional costs incurred by or in order to implement this  
Amendment or required by any requests for extensions of time to QUINN EMANUEL  
DEPOSIT ACCOUNT NO. 50-4367.

Respectfully submitted,

By 

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